

# FORAGE SUITABILITY GROUP

## Sub-Irrigated Limy “LRU G”

10 – 14” ppt & 90 – 120 Freeze Free Days (AWC 3-6")

**FSG No.: GO47XG030WY**

**Major Land Resource Area (MLRA) :** 47 – Wasatch and Uinta Mountains

### Physiographic Features

Less than one-third of this area is in farms and ranches. Most of the remainder of the area is federally owned. There are several national parks and primitive areas located within this area. Grassland and the woodlands are grazed during the summer. Recreation and mining are also important land uses. The elevation ranges from 4,921 to 8,858 feet (1,500 to 2,700 meters) but on some peaks may be as high as 13,451 feet (4,100meters). These strongly sloping to precipitous mountains have narrow crests and valleys. Some high plateaus have gently sloping tops to steep sides. The mountains are dissected by many streams and lakes. The streams, lakes, and ground water supply enough water for the range and forestry enterprises and the perennial streams provide irrigation water in the major valleys.

### Climatic Features

Annual precipitation ranges from 15 - 30 inches per year. Precipitation is evenly distributed throughout the year. Much of the precipitation is in the form of snow. On some of the peaks, frost can be expected anytime of the year.

Temperatures are subject to wide ranges, both seasonal and day to night. Sunshine is quite abundant with few days during the year without some sunshine.

This is in Land Resource Area “G”. The precipitation in this LRU is 10 to 14 inches and has a freeze free period of 90 to 120 days.

There is a wide variation in freeze free days and precipitation in this MLRA. Please be sure and visit with the local field office for site specific climatic information that is available in the Field Office Technical Guide, Section I, Climatic Data, <http://www.nrcs.usda.gov/technical/efotg/> or refer to the National Water and Climate Center web page at <http://www.wcc.nrcs.usda.gov>.

### Soil Interpretations

This group consists of deep, medium textured soils. The loam soils tend to be mellow and are easily worked, and have a pore-size distribution that results in good water retention and aeration. These soils have a water holding capacity (AWC) of greater than 6 inches in 60 inches of root depth. The permeability class ranges from slow to moderately rapid. The water table ranges from 18 to 48 inches in depth. The primary limitation to the soils in this group is the high lime content close to the soil surface. The lime reduces the availability of some plant nutrients. This reduces species choices and yield potential.

The soil survey maps were completed for the purposes of developing plans for tracts of land and can not be used to determine the soils on or the suitability of a specific site. Consequently, small areas of significantly different soils are not identified on the maps and may occur in any map unit.

Refer to Appendix A, Forage Suitability Group Rules in Section II, of the Field Office Technical Guide, Pastureland and Hayland Interpretations for the parameters used in grouping the soils.

## **Soil Map Unit List**

For a complete listing of soil components and what Forage Suitability Group the soil is in, refer to Appendix B, Section II of the Field Office Technical Guide, Pastureland and Hayland Interpretations.

## **Adapted Species List**

Refer to Appendix C, Adapted Species for Forage Suitability Groups in Section II of the Field Office Technical Guide, Pastureland and Hayland Interpretations or access the electronic adapted species list at

[http://efotg.nrcs.usda.gov/references/public/WY/10-](http://efotg.nrcs.usda.gov/references/public/WY/10-14%20INCH%20PRECIPITATION%20ZONE%20ADAPTED%20SPECIES%20MATRIX%2047%20APPENDIX%20C.pdf)

[14 INCH PRECIPITATION ZONE ADAPTED SPECIES MATRIX 47 APPENDIX C.pdf](http://efotg.nrcs.usda.gov/references/public/WY/10-14%20INCH%20PRECIPITATION%20ZONE%20ADAPTED%20SPECIES%20MATRIX%2047%20APPENDIX%20C.pdf). Additional information concerning plant characteristics of a number of the listed species as well as individual cultivars of many of those species can be accessed on the web at <http://plants.usda.gov>

## **Production Estimates**

Production estimates are based on management intensity (fertility regime, irrigation water management, harvest timing, etc.) and should be considered as estimates only. The estimates should only be used for making general management recommendations. On site production information should always be used for making detailed planning and management recommendations when available.

The high forage production estimates listed below are based on dense, vigorous stands of climatically adapted, superior performing cultivars. They are properly fertilized for high yields, and pest infestations are kept below economic thresholds. Mechanical harvests are managed to maintain stand life by cutting at appropriate stages of maturity and harvest intervals. If grazed, optimum beginning and ending grazing heights are adhered to. Adequate time is allowed for plant recovery before entering winter dormancy under both uses.

The production estimates listed below represent total annual above ground plant production on an air-dry-matter basis. Production on pastures in many instances is species dependent and depends if the pasture is a single species pasture or a mixture of grass species. To convert the information below to AUM's (Animal Unit Months), multiply the pounds per acre by 35 per cent and then divide by 790 (example: assume 2,800 pounds per acre:  $2,800 \times .35 \div 790 = 1\frac{1}{4}$  AUM's).

**Irrigation:** The expected production for grass would be from 2,000 to 4,000 pounds per acre. The expected production for legumes would range from 3 to 4 tons per acre.

**Dryland:** The expected production for grass would be from 600 to 1,000 pounds per acre. The expected production for legumes would range from 1  $\frac{1}{2}$  to 2 tons per acre.

## **Forage Growth Curves**

### **LRU G**

**Growth Curve Number:** WY0012

**Growth Curve Name:** Cool Season Grass

**Growth Curve Description:** Dryland (10 – 14” precipitation)

**Percent Production by Month**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	35	40	10	5	5	0	0	0

**Growth Curve Number:** WY0013  
**Growth Curve Name:** Cool Season Grass  
**Growth Curve Description:** Irrigated (10 – 14” precipitation)

**Percent Production by Month**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	20	30	25	15	5	0	0	0

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**Growth Curve Number:** WY0008  
**Growth Curve Name:** Legumes  
**Growth Curve Description:** Irrigated (10 – 14” precipitation)

**Percent Production by Month**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	25	20	20	20	10	0	0	0

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**Growth Curve Number:** WY0009  
**Growth Curve Name:** Legumes/Cool Season Grass  
**Growth Curve Description:** Irrigated (10 – 14” precipitation)

**Percent Production by Month**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	10	30	20	15	15	10	0	0	0

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**Growth Curve Number:** WY0003  
**Growth Curve Name:** Legumes  
**Growth Curve Description:** Dryland (10 – 14” precipitation)

**Percent Production by Month**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	20	25	20	25	5	0	0	0

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**Growth Curve Number:** WY0004  
**Growth Curve Name:** Legumes/Cool Season Grass  
**Growth Curve Description:** Dryland (10 – 14” precipitation)

**Percent Production by Month**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	10	30	30	15	5	10	0	0	0

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**Growth Curve Number:** WY0005  
**Growth Curve Name:** Warm Season Grass  
**Growth Curve Description:** Dryland (10 – 14” precipitation)

**Percent Production by Month**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0		10	40	35	15		0	0	0

## Management

The relationship between soils, vegetation and climate on any given site is historically driven by the ability of the plants to grow and change as conditions warrant and has allowed various species to express themselves naturally. Under agronomic conditions, production-enhancing practices have altered the original limits of the biomass production. The modification of growth factors, customized selection of species and wise use of a variety of management practices have the potential to produce yields and quality far superior to those found in the native state.

These soils when in forage management system should see organic matter at a steady or a slowly climbing state. If erosion from either wind or water is a concern, the current erosion prediction tool should be used to ensure that the erosion concern is addressed properly. The impact on yields can be reduced by selecting forage species that are tolerant of the high lime levels inherent to these soils. Refer to the pasture and hayland planting standard or the forage harvest standard in the Field Office Technical Guide, Section IV for further management information.

## FSG Documentation

### Data References:

Agriculture Handbook 296 - Land Resource Regions and Major Land Resource Areas  
Natural Resources Conservation Service, National Water and Climate Center (NWCC)  
National Soil Survey Center, National Soil Information System (NASIS)  
National Range and Pasture Handbook  
Natural Resources Conservation Service, Field Office Technical Guide (FOTG)  
Various Agriculture Research Service (ARS), Cooperative Extension Service (CES), and Natural Resources Conservation Service (NRCS) information on plant trials for adaptation and production.  
"Dryland Pastures in Montana and Wyoming" Species and Cultivars, Seeding Techniques and Grazing Management, Montana State University, EB19

### State Correlation:

This site has been correlated with the following states:

### Forage Suitability Group Approval:

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<u>Original Date:</u>	7/17/01
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<u>Approval Date:</u>	9/25/03